

# Inquiry as collection

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## *The Athanasius Kircher Museum in Rome*

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To my astonishment they take me home rather than to some secret hideaway and lock me in the catoptric room I had so carefully reconstructed from Athanasius Kircher's drawings. The mirrored walls return my image an infinite number of times. Had I been kidnapped by myself?

*Italo Calvino, If On a Winter's Night a Traveler*

The collecting of art and natural objects is a complex and variegated phenomenon. Despite such groundbreaking work as the two seminal studies on this subject by Murray and Schlosser at the beginning of the century,<sup>1</sup> much remains to be done before it can be brought into proper relief. Above all else, a more articulate understanding will serve to remove certain rather facile preconceptions—we may indeed say prejudices—that have been brought to bear unduly in the consideration, appreciation, and disposition of these collections and that have to a large extent determined their destiny.

With few exceptions, museums of art and of *mirabilia* were the mirror image of scientific learning from the Renaissance at least until the mid-eighteenth century, a period that spans the early development of modern scientific thought. It is no accident that Galileo himself expressed one of the first negative pronouncements concerning the collections by those “curious little men” who take such delight in assembling things “that have something peregrine about them,” “curios” that so contrast with the great art galleries and their ancient statues and valuable vases and paintings.<sup>2</sup> The comparison disguises a well-known

allusion to Galileo's reservations about Tasso's *Gerusalemme Liberata*, whose narrowness of mind and vision is measured against the powerful range and majesty of Ariosto's *Orlando Furioso*.

This judgment underscores the two conflicting basic attitudes in the characterization of the collector and his activity. The first is a quasi-caricature—of someone who amuses himself like a child in collecting small and insignificant things, “a petrified crab, a desiccated chameleon, a fly or spider in gelatin or in amber, those small clay figurines supposedly found in ancient Egyptian burial chambers, and so with painting—sketches here and there by Baccio Bandinelli or Parmigiano.”<sup>3</sup> At the center of this microcosm sits the private collector who, with but scant financial resources yet endowed with sufficient credulity or—to give him his due—the foresight of imagination, was to turn the small museum into a macrocosm, that symbol of the totality expressed in the combining of art and nature according to a canon that had gained wide currency by Galileo's day. The second is the great collection of a Renaissance prince, the gallery or *guardaroba* full of highly prized and valuable objects, the choicest statues by the most renowned sculptors, the paintings or “complete histories” by the most illustrious artists, and vases of the most precious materials.

These two conflicting images of collecting present several important facets. The first is common to both and concerns their purpose—wonder or marvel. In the

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1. D. Murray, *Museums: Their History and Their Use*, Glasgow (1904); J. von Schlosser, *Die Kunst-und Wunderkammern der Spätrenaissance*, Leipzig (1908). Schlosser did not know of Murray's book and does not cite it in the first Leipzig edition. He makes redress in the manuscript of the second edition—an enlargement of, and a more systematic presentation than, the original—which was posthumously published by Klinghart und Biermann, Leipzig (1978). See also E. Scheicher, *Die Kunst-und Wunderkammern der Habsburger*, München (1979); A. Lugli, *Naturalia et Mirabilia. Il collezionismo enciclopedico nelle Wunderkammern d'Europa*, Milano (1983).

2. Galileo's comment, taken from “Considerazioni al Tasso,” in *Scritti letterari*, Firenze (1933), has frequently been cited and enjoys a certain notoriety among scholars in the field of collecting (for details on the literary and artistic discussion of the “considerazioni” cf. M.

Ferretti, “I maestri della prospettiva” in *Storia dell'arte italiana, Forme e modelli* II, Torino (1982), 459, nota I, with bibliography). If, as seems likely, it is to be placed in the first decade of the seventeenth century, Galileo's criticism evinces that the previous fifty years' collecting of art and natural objects had already led to its being fully categorized, such that his remarks can stand as a common and unequivocal reference point for all. The meanings of the terms *studietto* and *galleria* are also fixed in the same way, cf. G. Nencioni, “La ‘galleria’ della lingua,” in *Gli Uffizi: quattro secoli di una galleria*, Atti del Convegno di Studi, Firenze, sett. (1982), a cura di P. Barocchi e G. Ragionieri, Firenze (1983), 17–48. The concrete example of *galleria* was right in front of Galileo in the Uffizi in Florence and the Tribuna, cf. P. Barocchi, “Storiografia e collezionismo dal Vasari al Lanzi,” in *Storia dell'arte italiana, Materiali e Problemi* II, Torino (1979), 30.

3. *Ibid.*

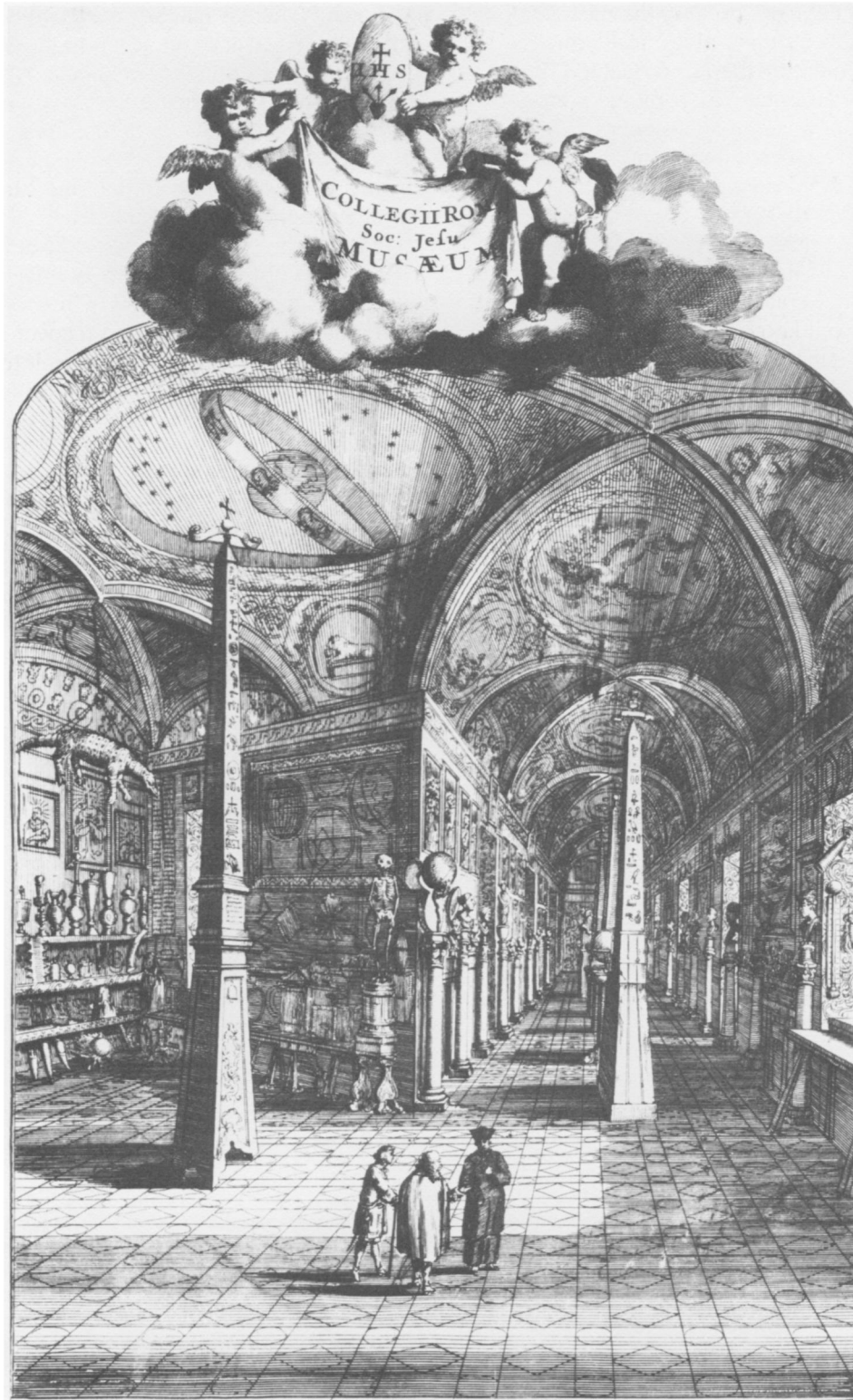


Figure 1. The Kircher museum, from A. Kircher, *Romani Collegii Societatis Jesu Musaeum celeberrimum* (1678).

case of the “curious little men,” neither the means nor the ends, that is, the objects themselves, instill any great sense of astonishment by the age of Galileo. By contrast, the awe inspired in the visitor by the princely collection is the result of a very real aesthetic experience, one closely associated with the marvels of the Baroque. Whether it is inspired by a majestic gallery or a ceiling fresco by Andrea Pozzo does not very much matter. What does matter is the leap into the sublime *ante litteram*. Just how great a part this inclination toward wonder played in science up to the Enlightenment is also well known. Here, however, it is not Galileo but Father Athanasius Kircher, the official spokesman for Jesuit science, who shall be called to the fore.

The second approach that merits attention is again common to both kinds of collections, that is, of art and nature, or of art alone: the idea of accumulation. At once implied, inherent, and fundamental, its consequence is the apparent, if tacit, absence of any planning or program.<sup>4</sup> Both kinds of collecting assume the form of extremely long paradigmatic catalogues aspiring to the grandiose via accretion and number. It is curious how differently the apparent lack of any systematic ordering has affected each type. In the post-Enlightenment intellectual crisis stemming from the rise of the new scientific method, it undoubtedly lies at the heart of the decline in importance of the encyclopedic collections—those combining art objects and nature specimens. The galleries housing art only, by contrast, succeeded in retaining influence and autonomy, since their system of ordering was not called into question until a much later date.

This alone is telling, for no matter how disorderly, the aesthetic experience was perceived as sufficient

4. Galileo's critical remarks are rather wide in scope, going beyond the *Wunderkammern* to the general idea of collecting itself. “Our poet errs as much as would the painter who, purposing to depict a particular hunting scene, were to clutter his canvas with conies, hares, foxes, goats, deer, wolves, bears, lions, tigers, boars, hounds, greyhounds, leopards and all manner of wild beasts, clustering at will animals of the hunt with every sort of game such as to liken his painting more unto a representation of the entry into the Ark of Noah rather than unto a natural hunting scene. . . .” Galileo is obviously referring to the various genre paintings of the age. One can see the influence of the painting-as-list, a sort of pictorial catalogue of ships, bearing a Flemish seal of origin, and which was well represented in Italy by Jan Bruegel the Elder, in the service of Federico Borromeo. The painting-as-cumulus is a tradition in its own right within genre painting, stretching in its long life span from eighteenth-century “rovinismo” (paintings of ruins) to the surrealists and manipulators of playful *bric-a-brac* such as Alberto Savinio.

unto itself. Whereas natural science very early on confronted the issues connected to the ordering of specimens—rejecting those collections that did not comply with certain criteria or classifying systems—it was quite another matter where art was concerned. There, the first mention of even the most rudimentary classification was not heard until the early decades of the nineteenth century. Significantly, the systems then being proposed were those derived from the natural sciences. Art history was left to its own designs by science, a situation evidenced by the former's attempt as an independent discipline to recover at least some of its lost stature—a mere posturing as it turned out. Indeed, it disguised an irresistible impulse to stand in wonder, to marvel before the altar of order, as Gottfried Semper's reaction to the zoological collection of the Jardin des Plantes in Paris bears eloquent witness.<sup>5</sup>

The crux of the issue is nothing less than the relation between scientific inquiry and collecting. The art historian wishing to investigate the origins of his discipline necessarily has to take into account the history of collecting—from the humanist's cramped study to the magnificent galleries of the munificent Renaissance patron and beyond to the “art only” collections formed *manu militari* in the wake of the Napoleonic conquests. Simply put, one must return to the age in which the objects of art still partook of the natural/artificial polarity, itself the mirror image of reality. Science delivers the first blow, initiates the parting of the ways, as Galileo's critique confirms.

We have already stated that only a patient investigation into the multifaceted universe of the encyclopedic collections, their range of interest and their number, will make it possible to arrive at an idea of the import and extent of this phenomenon. Murray and Schlosser, as heirs to the entire estate of nineteenth-century historical research—an extensive body of knowledge encompassing collection catalogues and inventories as well as a remarkable number of museographic reflections<sup>6</sup>—have pointed the way. And

5. G. Semper, “London Lecture of November 11, 1853,” *Res* 6 (1983) 8 ff., edited by Harry Francis Mallgrave, with a preface by J. Rykwert. Semper's visit to the Jardin des Plantes took place during his student years in Paris from 1826 to 1830. His familiarity with a collection and its system of classification is confirmed by his contacts with Gustav Klemm, whose splendid collection was divided upon his death between the British Museum and Leipzig's Museum für Völkerkunde (cf. J. Rykwert, “Semper et la conception du style,” *Macula* 5/6 (1979), 176–189).

6. The Viennese School, first in Riegl and Wickhoff and then in Schlosser, represents a body of thought inextricably linked to the

the first bricks in that edifice are the printed museum catalogues.

A few brief background comments are in order to draw attention to the catalogue's value for the museum historian. When extant, it has the same kind of importance as paintings or sculptures for the art historian; it is an irreplaceable document at once historical and iconographic. The combined art and natural history collections provided the original impetus for numerous printed catalogues. They are a visible sign that the aforementioned "curious little men" perceived the need to sort out and endow their collections with some semblance of order and classification. No matter how vague and confused the initial effort might be, it was an attempt to bring method to chaos—the same effort to which the new natural sciences were committed.

The reasons behind the interest in these publications are manifold. In the first instance, they are printed matter and not mere manuscript inventories. The inventory is almost unfailingly a simple act of recording, a registering, which is thus subject to the vagaries of time, displacement, inheritance, and so forth. By contrast, the published catalogue constitutes the salient point of a collection's life. The collector, or the person acting at his behest, crowns his achievement by delineating what might be called the collection's ideal portrait—a labor of love usually undertaken as

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question of museography as attested to by Schlosser himself in his introduction to C. F. von Ruhmor's *Italienische Forschungen*. These nineteenth-century studies produced a formidable research corpus for the art historian, including source materials largely based on collecting itself. Ruhmor's source was also quite close at hand, being the collection of the English merchant Solly, which formed the nucleus of Berlin's museums. This same practice had also been applied to the earliest collections of Italian primitives in the preceding century. They were by and large the result of diligent scholarship undertaken with scant finances, yet borne up by their coherence and precise planning. Carlo Lodoli (1690–1761) described a contemporary collector of fourteenth- and early fifteenth-century art quite engagingly: "The poor friar, as indeed he was by his own words, was wholly without the means to purchase a series of paintings by the most celebrated artists . . . thus he devised to assemble a not very dissimilar, and perhaps more useful collection than those usually seen by imagining that his paintings should show step by step the progress of the art of drawing in Italy from its renewal to Titian, Correggio, Buonarroti and Veronesi" (found in G. Previtali's article "Collezionisti di primitivi nel Settecento," *Paragone* IX, no. 113, 1959, p. 4). It can be useful to compare the Renaissance prince's museum with the more modest, yet—from the standpoint of inquiry—more interesting collection of the individual scholar, as with Samuel Quiccheberg, theoretician of the sixteenth-century museum (to whom we shall have to return later).

the collector comes to the realization that his work is complete, or very nearly, and must now be preserved from the always incumbent and most insidious threat, that of dispersal. To this must be added what Walter Benjamin, speaking of Eduard Fuchs, defined as "the pride in being portrayed along with one's collection," as we indeed find that almost all such catalogues open with the collector's portrait.<sup>7</sup>

The title-page engraving is, whenever present, another focal point of interest. Far better than anything else, it lays before the curious reader, then as now, the collection's inner arrangement. The nearer we approach a formal classification of encyclopedic collecting, that is, toward the mid-seventeenth century, following the lead of Kenteman, Imperato, Aldrovandi, Tradescant, Calceolari (fig. 1), Worm and Kircher (fig. 2), the more discernible becomes the formation—with a timeliness that is nothing if not precocious—of a historical perspective vis-à-vis the collection. It is already to be found (in 1674), for instance, in Johan Daniel Major. And, in 1709, Filippo Bonanni by way of introduction to his *Musaeum Kircherianum* even lists the main collections standing in direct relation to Kircher's, for example, Worm's, Settala's, Cospi's, Molinet's in the Bibliothèque de Sainte-Geneviève in Paris, Rumph's Amboinische Rariteitskamer in Amsterdam, and the Museo Petiveriano.<sup>8</sup>

When Johan Daniel Major published his *Unvorgreifliches Bedencken von Kunst-und Naturalien Kammern insgemein* at Kiel, it was almost a century after the appearance of another fundamental treatise on the subject—Samuel Quiccheberg's *Inscriptiones vel tituli theatri amplissimi*, of 1565. Its author had been a Belgian physician at the Court of Albert V of Bavaria, and in it we find that various changes had already transformed the model of the ideal collection as originally set forth by Giulio Camillo's *Teatro della Memoria*.<sup>9</sup>

Quiccheberg was in touch with the leading naturalists cum collectors of the age, and the value of his book cannot be overstated. Albeit at first glance every collection in it appears intent on striking out for uncharted waters, it would be difficult to take issue

7. W. Benjamin, "Eduard Fuchs Collector and Historian," in *Zeitschrift für Sozialforschung*, 1937.

8. F. Bonanni, *Museum kircherianum sive Musaeum a P. Athanasio Kircherio jam pridem incoeptum nuper auctum et restitutum*, Romae, Georgius Placho (1709).

9. S. Quiccheberg, *Inscriptiones vel tituli theatri amplissimi* . . . , Monachii, ex officina Adami Berg (1565). Cf. A. Lugli, op. cit., 79 ff., as to Giulio Camillo's theater of memory.

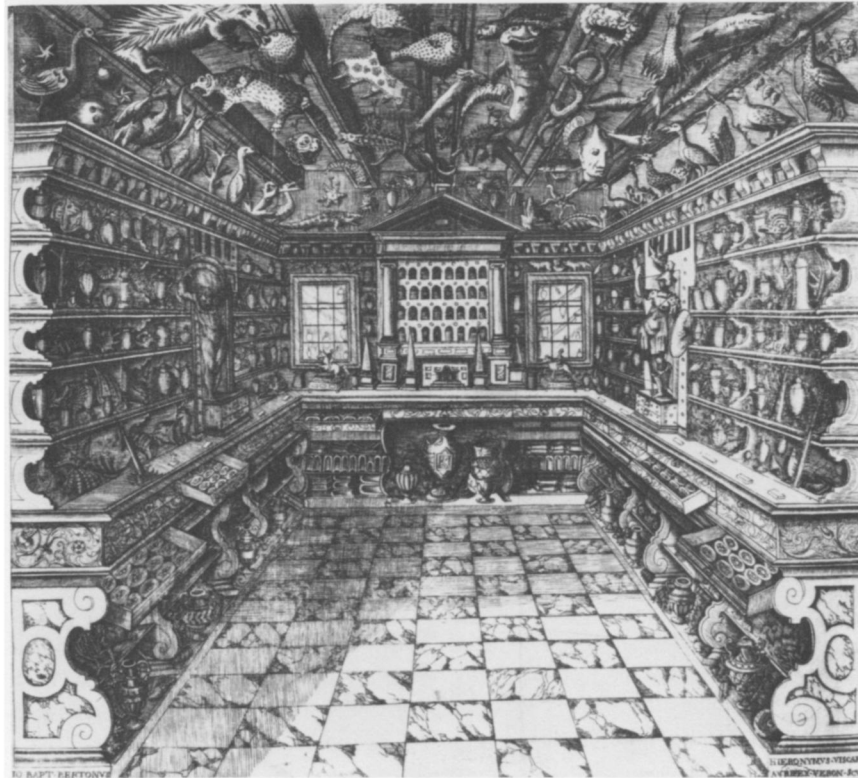


Figure 2. The museum of Francesco Calceolari, from B. Ceruti and A. Chiocco, *Museum Calceolarium* (1622).

with Quiccheberg's project, first of all because any catalogue is always and foremost a basically descriptive, all-embracing document and only then a systematic list. This is further supported by the example of Ludovico Moscardo, physician and collector of Verona. Having reached the completion of his labors, which were to be published in 1656, he apologizes to the reader for the "disorder" evident in his descriptions yet confesses that, as nothing should detract from curiosity, he had purposely decided to include rather than omit those objects newly arrived when the catalogue was already at the printer's.<sup>10</sup>

Quiccheberg's tract develops two model systems that his contemporaries were beginning to put into practice. One deals with the very nature and design of the collection in its own right and the other with method, in the sense of a procedural or guiding principle. The first model stems from the axiom that inquiry or

investigation necessitates a collection, a dictum that prompts him to suggest an essentially dual approach to collecting and entails two projects. On the one hand is the full-scale museum erected on the commemorative stage of history itself against the backdrop of limitless wealth. It is clearly intended for the Renaissance princes and monarchs who can forever fix the blazons of their noble houses, the trappings of power, and the charts and geographical maps of their realms in the amber of the collection. The other, by far the more modest, is exclusively intended to serve the purposes of inquiry and is addressed to the scholar.

The princely museum is to be ordered according to four classes or sections:

1. *Tabulae* or *Picturae*, which include the subdivisions of sacred history, dynastic glorification, wars, triumphs, military engines, palaces, and rare or large-size animals.
2. *Artificialia*, in the term's broadest, most generic sense, which meant not only statues but all ingenious objects of human manufacture—rarities

10. L. Moscardo, *Note ovvero Memorie del museo di Ludovico Moscardo, Verona, per Paolo Frambotti* (1656).

that symbolize the exercising of artifice on the most unusual materials.

3. *Naturalia*, encompassing animals, metals, plants, human anatomy, and rocks and minerals in general.
4. *Scientific Instruments*—mathematical instruments, astrolabes, writing and painting implements, hoisting apparatus, flying machines, navigational and surgical instruments, and swimming and hunting devices. This section is accompanied by European and exotic forms of dress or apparel; it occupied a conspicuous place in all collections.<sup>11</sup>

The above scheme of things closely resembles the system instituted by Aldrovandi in his distinction between the factive or effective and the contemplative arts.<sup>12</sup> For example, he includes among the first class "Agriculture, navigatory art, Culinary" as well as the "*Ars textilis sive plumaria*," that is, the classification of costumes and the feather mosaics brought back from the Americas, which figured so prominently in all the *Wunderkammern*. It is evident from even this cursory list that the encyclopedic collection is to a great extent premised on the *Artes factivae*, a principle whereby objects of art are strictly classified by the techniques and materials used in their making rather than, or far removed from, any consideration based on the distinction between crafts and the fine arts.<sup>13</sup> One can clearly detect in such an arrangement of art objects a direct antecedent of the notion—still embryonic at that time—of education of the public in museums devoted to artisan-industrial arts as, for example, propounded by

11. The fifth class in Quiccheberg's tract is reserved for painting. It comprises several subsections, including oils of the great artists "in which proportions, gesture, variety, perspective and the ornate are to be observed," paintings "with watercolors" of celebrated artists "quasi ogni opera un onesto certame," copper engravings, genealogical trees, portraits, painted fabrics and carpets, and moral sentences (*sententiae*) and motto tablets to be hung on walls.

12. Cf. S. Tugnoli Pattaro, *Metodo e sistema delle scienze nel pensiero di Ulisse Aldrovandi*, Bologna (1981), 97.

13. These are the so-called *arti congregate*, which admit of the widest variety of associations under the common denominator of artifice. This is clearly evinced by the substantial part this aspect had in the Uffizi until the late eighteenth century, when the ivories, ambers, cabinets, arms, Jacopo Ligozzi's "libri di figura," exotic manuscripts, and antiquities begin to take flight in such very different paths as the Museo Naturale, Gabinetto di Fisica, and the Laurenziana. There were also the "Gallery's rejects," such as enormous elephant teeth, a long winged unicorn's horn, a complete hippopotamus, and model of Palazzo Pitti, which had already been removed to the Arsenale (cf. P. Barocchi, "La storia della Galleria e la storiografia artistica," *Gli Uffizi: quattro secoli di una Galleria*, op. cit. I, 49–150).

Gottfried Semper in connection with his ideal nineteenth-century museum.<sup>14</sup>

The other category of Quiccheberg's museum is the collection intended as the private domain of the scholar. The encyclopedic collection is within the reach even of those without princely fortunes at their disposal, upon the condition, which Quiccheberg is at pains to underscore, that inquiry form the basis of the collection. This formula eliminates the more spectacular, significant art pieces and places the emphasis on the classification of plants, animals, and minerals. The author lends authority to his argument by citing as paradigms those collections with which he is most familiar—Gessner's, a "studio" collection dedicated to animals, Fuchs's to botany, Agricola's to metals, and Aldrovandi's, which Quiccheberg actually visited in Bologna.

All of these collections are eminently suited to scholarship, as their formation is to a great extent the result of exchanges or gifts—a practice that sustained both private and institutional scientific collecting to the end of the nineteenth century, that is, up to the positivist museum. This model also admits the use of pictorial images in lieu of objects or specimens that cannot be materially procured but are necessary links in a classificatory chain whose logical sequence must not be interrupted. Here we begin to see a shift in the role played by the artifact. From that of constituent element vis-à-vis the natural items in the full-dress museum, it here begins to assume a preeminence in the didactic organization within the museum itself. This one, in turn, can be considered the dominant museographic criterion in the seventeenth-century collections—Kircher's *primus inter alia*—without necessarily imputing to such a role any hint of discontinuity between the baroque and sixteenth-century collections.

The second of Quiccheberg's two systems is a rule-of-thumb method of procedure: wherever possible, the areas housing the collection should be served by rooms set aside for investigation and experiment. This means first of all a library to be followed by various workshops, for example a printing press, rooms outfitted with various implements such as a lathe for handling materials, an herbal store, and a foundry.

14. Drawing upon the ethnographic researches of Gustav Klemm, Semper restored weaving to its place as the primary element in the organizing of the endeavors of *homo faber* just as the distinction between *Kunst* and *Kunstgewerbe* was becoming ever more blurred and the traditional dichotomy *Kunst-Wissenschaft* would soon be offset by the addition of *Industrie*. J. Rykwert, op. cit., 181 ff.



Such multipurpose quarters have indeed characterized to a great extent most of Italy's botanical gardens.

One further consideration: Quiccheberg predicates, constituted as it were, the foundations upon which the museum was to be arranged, and thenceforth, whether collectors realized it or not, this treatise remained the standard of reference. By borrowing the well-known *ars gratia artis* topos from the fine arts, one can indeed say that the collection stemmed from itself and its tradition, no matter how brief this may have been. I believe this may explain, at least in part, why certain collectors felt it in no way incumbent upon them to justify—something which they would be compelled to do today—their system of classification.

Yet that system existed. It was to be found first in the art/nature duality, a rather broad category that admits numerous examples of what can be called specializations. One such instance is the sixteenth-century museum of Ferrante Imperato. Under the guise of a treatise on nature entitled *Historia Naturale*, published in 1599 (fig. 3), Imperato pens a somewhat

allusive portrait of his collection, a general preview rather than a catalogue. The same holds true for the *Metalothecae*, specialist collections of ores, rocks, and minerals. There were at least three such collections in existence toward the close of the sixteenth century—Kenteman's *Arca Rerum Fossilium* of 1565 (fig. 4); Aldrovandi's, which, despite posthumous publication of the catalogue in 1648, surely was already nearing its final form by the last decades of the 1500s; and Michele Mercati's *Metallotheca Vaticana* (fig. 5), another collection that had almost been completed by 1580 yet had to wait until 1719 before its catalogue was published by Clement XI at the insistent urging of Lancisi.

In each of the cases cited, the museum catalogue is only a partial reflection of the collector's interests. For example, the *Metallotheca Vaticana* is only one of the areas in which the scholar Michele Mercati was active. He was also appointed director of the Vatican's botanical garden in 1566, played a role in the collecting of antiquities—as attested to by his having

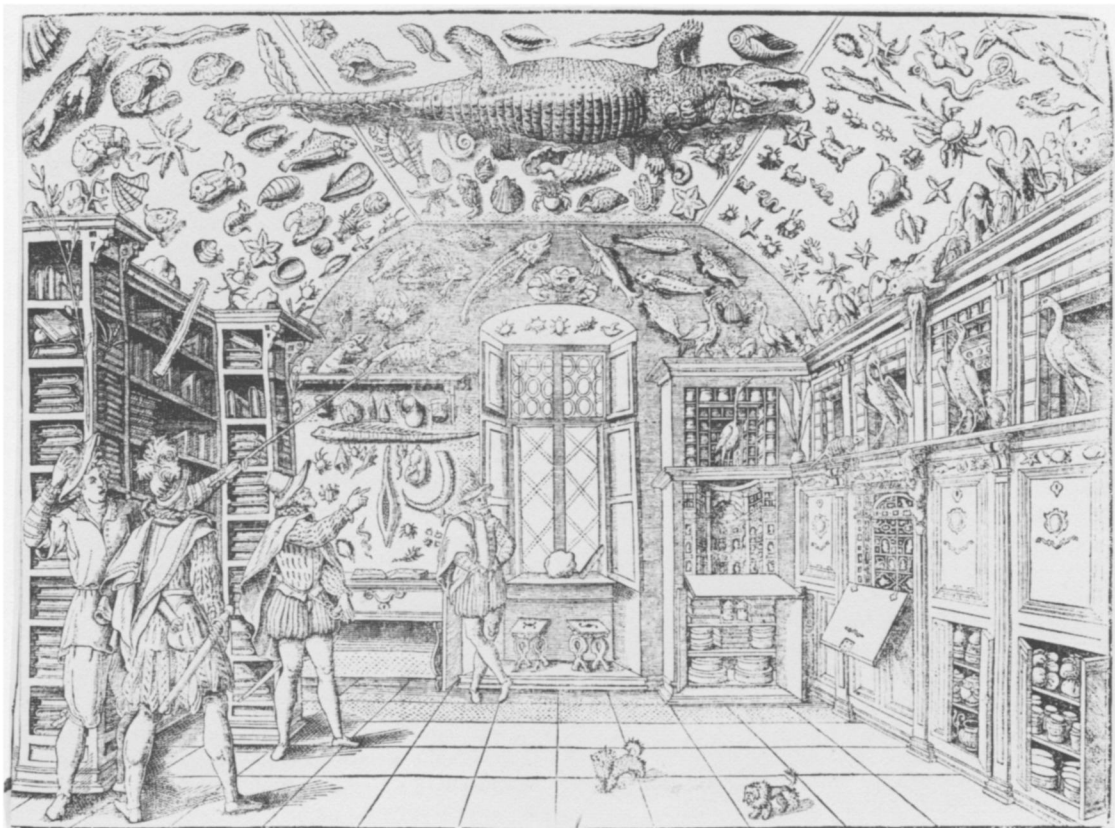


Figure 3. The museum of Ferrante Imperato, from F. Imperato, *Historia naturale* (1599).

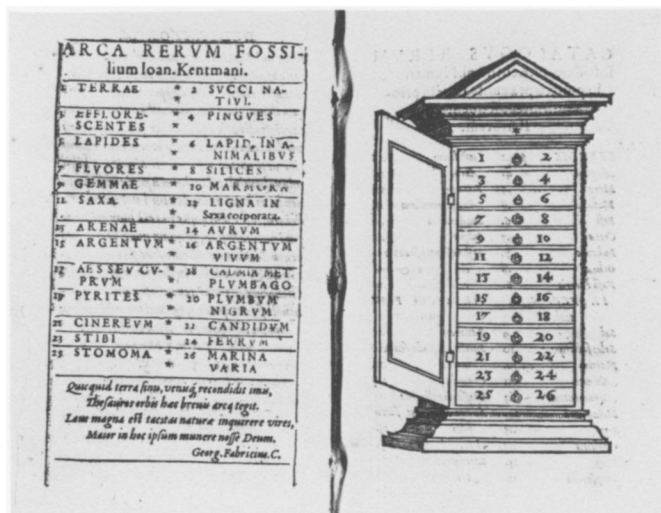


Figure 4. Johannes Kenteman's museum of rocks and minerals, from J. Kenteman, *Arca rerum fossilium* (1565).

included in the *Metallotheca* itself several statues from the Belvedere Atrium that he classified by their materials—and wrote a book on the Egyptian obelisks of Rome for Sixtus V.

A code of working method can be discerned increasingly within the labyrinthine world of encyclopedic collecting. First of all, as we have seen, because inquiry coincides only in part with the collection, it can now be recorded in the encyclopedic "opus," that is, the book, rather than housed in the museum. Or, as will become common practice, the museum will include items that are from fields in which neither the collector nor the catalogue's compiler is an expert and are imposed upon it by the collection as manifestation of the microcosm *Naturalia-Artificialia*.

A case in point is that of Francesco Calceolari, a Veronese pharmacist by profession and noted botanist. Unlike his fellow Veronese collector, Ludovico Moscardo, who was more drawn to the *Artificialia*, Calceolari collected both art and specimens of nature for his museum in the course of his primary pursuit as scholar and collector of plants, minerals, and animals. Indeed, scholarship in the city of Verona maintained this double facet throughout the entire sixteenth and seventeenth centuries. Antiquities and nature were to share a common foreground until the eighteenth century and the advent of the first public museum in Italy—that of Scipione Maffei in 1749, with its exemplary collection of antiquities. Further evidence for the spread of this practice also comes from the

combined art-nature collections, such as that of Ferdinando Cospi of Bologna, who entrusted the compiling of his 1677 catalogue to Lorenzo Legati, a classical Greek and antiquities scholar.

This rise and spread of specialization to the contrary, the idea of the museum remained in actual fact unchanged throughout the seventeenth century. It was still conceived of as a place where heterogeneous materials connected by a circular system of thought could be displayed, a place in which one could move about without having to solve or face the problem of continuity. Nothing substantiates this characteristic better than the absolute nonchalance with which scholars of the period switched from one field of interest to another, as is borne out, for example, by Manfredo Settala. After long years of painstaking effort on the scientific and experimental details of his own collection, he accepted the directorship, in 1669, of the Academy of Painting, Sculpture, and Architecture, which had been founded in Milan by Federico Borromeo, in 1620, but had now been closed for over forty years.<sup>15</sup>

Settala and Kircher are revealing, and parallel, case studies in the contemporary attitude toward the museum and inquiry. All of Settala's studies culminate in the collection and its catalogue. Here the approach resembles that of the Renaissance collector, where the collection represents a unified cosmology, necessarily made up of all those elements without any single one of which it would be meaningless.

Kircher, by contrast, presents a completely different picture. There are various reasons for this. The first is of a practical nature, that is, the *naturalia et mirabilia* assembled in Rome's Jesuit College was already a complete collection, having been bequeathed by Alfonso Donnino in 1650, when the Jesuits took charge of it. It is probable that Kircher had not yet established his museum, or if so only in part, before the bequest. However, several of his most important works had already been published, viz., *Magnes sive de arte magnetica*, *Lingua Aegyptiaca restituta*, *Ars magna lucis et umbrae*, *Musurgia*, and *Obeliscus Pamphilus*.<sup>16</sup> The

15. C. Tavernari, "Il Museo Settala," *Critica d'arte* XLIV (1979), 163–165, 206.

16. As to the museum's history, cf. F. Cabrol and H. Leclercq, *Dictionnaire d'archéologie et liturgie*, Paris (1928), T. VIII, 772–805, and M. Garucci, "Origini e vicende del Museo Kircheriano dal 1651 al 1733," in *Civiltà Cattolica*, anno XIII, vol. 12, serie 10 (1879), 727–730. Ezio Bassani has recently identified a ceremonial headdress and small raffia rug, both Congolese, from the Kircher Museum,





Figure 5. The Vatican “metallotheca,” from M. Mercati, *Metallotheca* (1719).

donation partly exempted Kircher from the burden of gathering the items necessary for an encyclopedic collection. It also had the advantage of being a museum already ordered along the lines laid out by Quiccheberg, an arrangement that the visitor of the time would expect to encounter, including the museum-as-laboratory feature—a practice, as we have seen, which was gaining momentum in the seventeenth-century cultural landscape and had in Settala a leading exponent.

Settala and Kircher corresponded with one another and exchanged objects and illustrations.<sup>17</sup> This contact extended most importantly to their convergent views on scientific experimentation. They concurred on this topic

so closely that it would be possible to compile a long list of machines common to both museums, or more appropriately, to both laboratories (figs. 6, 7, 8, 9). Even the title-page engravings of the two catalogues are quite similar. Yet the plate (fig. 2) accompanying the *Musaeum Kircherianum* appears to refer, in its depiction of the gallery housing the museum, to its illustrious precursors (Imperato, Calceolari, even Settala) rather than reveal its “specialties.” It seems borne along by a sort of iconographic inertia or will to dispel even the slightest shadow of doubt as to any deviation from the established norm regarding the encyclopedic collection. This impression remains despite the contrary evidence gleaned from perusing the text of the catalogue itself.

This discrepancy may well be accounted for by the instrumental role played by the compiler, Giorgio de Sepi di Valois, “custos musaei et in machinis elaborandis artifex.” The plates accompanying the text heighten in effect what must have been, for Kircher as well as for the visitor, the museum’s main attraction—the “experimental” cabinet housing the scientific

presently housed in Rome’s Museo Pigorini (E. Bassani, “A Note on Kongo High-Status Caps in Old European Collections,” *Res* 5 [1985], 75–84).

17. The copper plate engraving of the collection of amber-embedded objects Kircher published in *Mundus subterraneus*, Amsterdam (1678) was an iconographic loan from the Settala Museum; it had already been etched by the Milanese collector before Kircher received it (see illustration’s caption, 80–81).

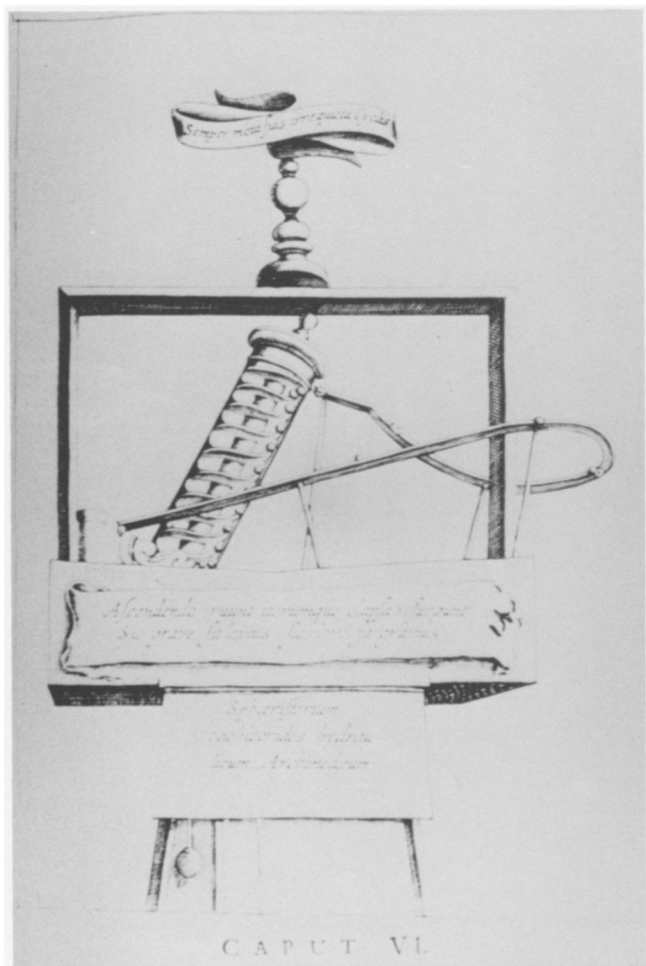


Figure 6. Mechanical spheristerium, from A. Kircher, *Romani Collegii Societatis Jesu Musaeum celeberrimum* (1678).

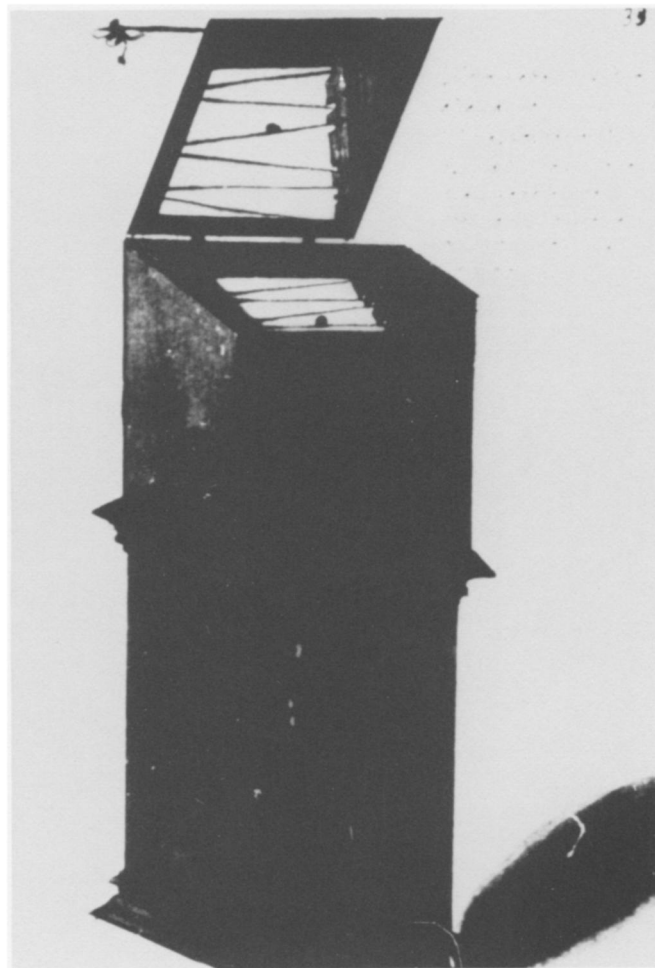


Figure 7. Motion-measuring instrument, from M. Settala, *Codice Ambrosiano*, Milano, Biblioteca Ambrosiana.

instruments, which were arrayed to present the viewer with an extraordinary display—a show whose leading actor and tireless director was Kircher himself. Gaspar Schott, one of the staunchest advocates in publicizing the more practical as well as the esoteric aspects of Kircher's work, remembers seeing Kircher during a performance at the Collegio Romano in a demonstration of an infallible defensive feint against the sword thrust of an opponent at point blank range.<sup>18</sup>

The title-page plate in Kircher's catalogue, as those in the catalogues of the other encyclopedic museums generally, performs a synoptic function. It is that first glimpse that is meant to strike as no other the visual

18. G. Schott, *Jocoseriorum naturae et artis sive magiae naturalis centuriae tres*, Bamberg, Johan Martin Schönwettters (1677), 18.

sensibility of the visitor: the viewer has the entire world laid out before him in the guise of the museum's objects. This synoptic character of the introductory plate not only applies to the catalogues of encyclopedic museums but is also common, of course, in works of a different nature, in which the frontispiece and title-page are similar symbolic and allegorical "icon emblems," standing for the whole of the work, as with Robert Fludd's *Utriusque Cosmi*.

If, however, the initial image summarizes the idea of the collection, it certainly does not always express its complexity—at least where Kircher is concerned. This is especially true regarding the scientific items, which demand a closer and more analytical scrutiny. Here we touch upon the limits of the image, for the *artificialia* in

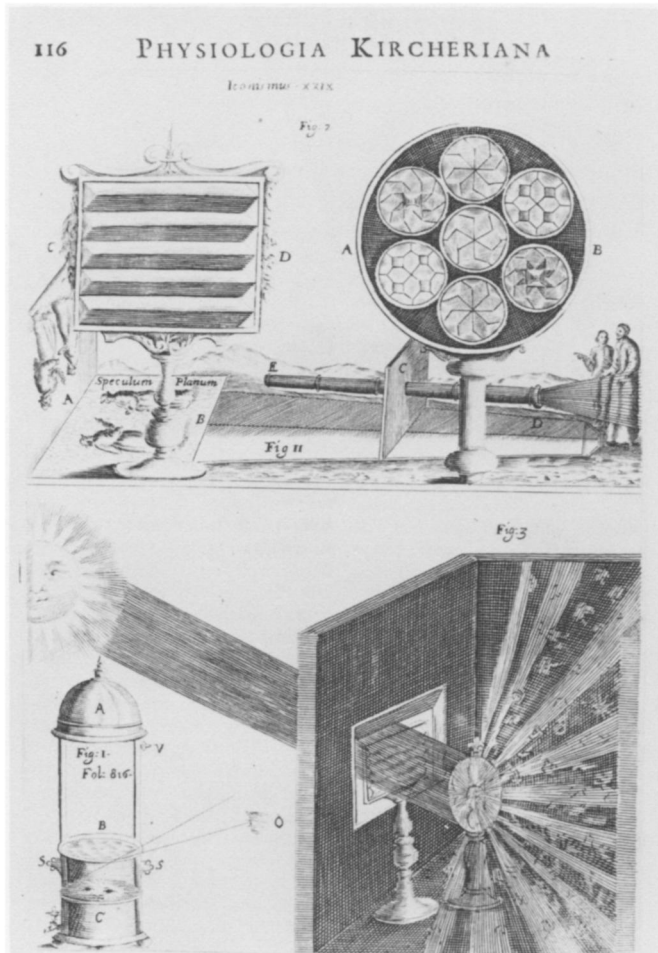


Figure 8. Various experiments in projection. Fig. 3: Apparatus to make the stars appear in a room, from A. Kircher, *Physiologia experimentalis* (1675).

particular face the challenge of being irreproducible through imagery. Even Settala, in his manuscript catalogues, finds it impossible to adequately portray through illustration the “minutiae” — such items as an ivory cherry enclosing in its pit a full complement of chess pieces, ever-fine strands of ivory, a camel that passes through the eye of a needle, or a loom on which to weave a spider’s web,<sup>19</sup> all of which he himself fashioned on the lathe.

A close-up view of Kircher’s collection, however, brings to the fore still other issues of a different nature — and a caveat. The collection is not the museum, nor

19. P. M. Terzago and P. F. Scarabelli, *Museo o Galleria adunata dal sapere . . .*, in Tortona, per li figliolo di Eliseo Viola (1666), 214–215.

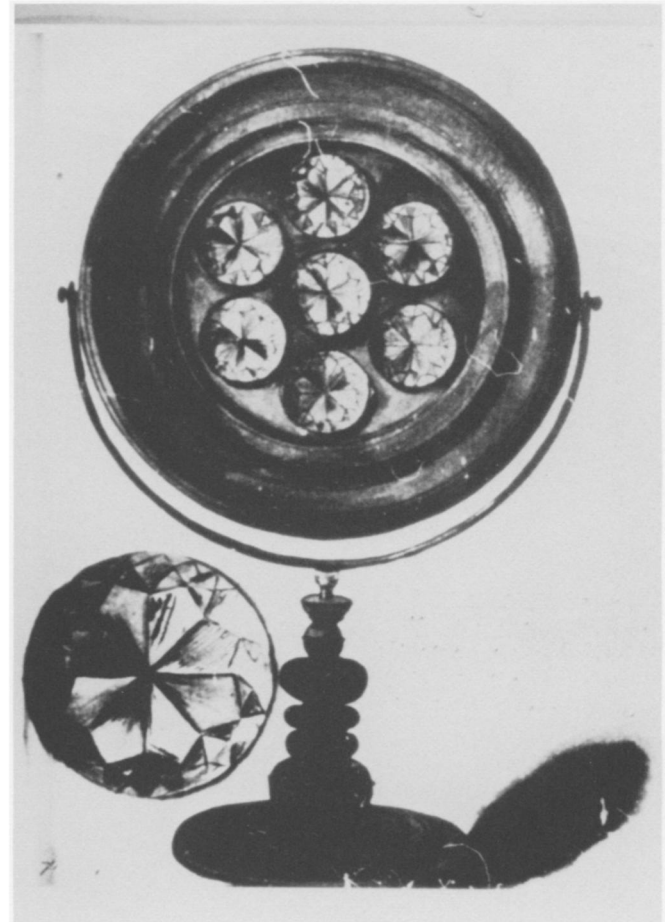


Figure 9. “Macchina catoptrica,” from M. Settala, *Codice Ambrosiano*, Milano, Biblioteca Ambrosiana.

is it to be found entirely even in the most exhaustive and thoroughly systematic of encyclopedic museum catalogues, such as Bonanni’s *Musaeum Kircherianum*, published in 1709. The items in the collection are scattered throughout the investigations and the voluminous complete works. These sources must patiently be culled for their numerous references to objects that were personally constructed or procured by Kircher for his museum. The same holds true for the writings of those who promoted things Kircherian, especially Schott and Schwener. They frequently remember having seen certain items in the Collegio Romano that Kircher himself fails to mention, for example, the book-object (fig. 10) seen by Schott and recorded by Schwener in his *Deliciae physico-*

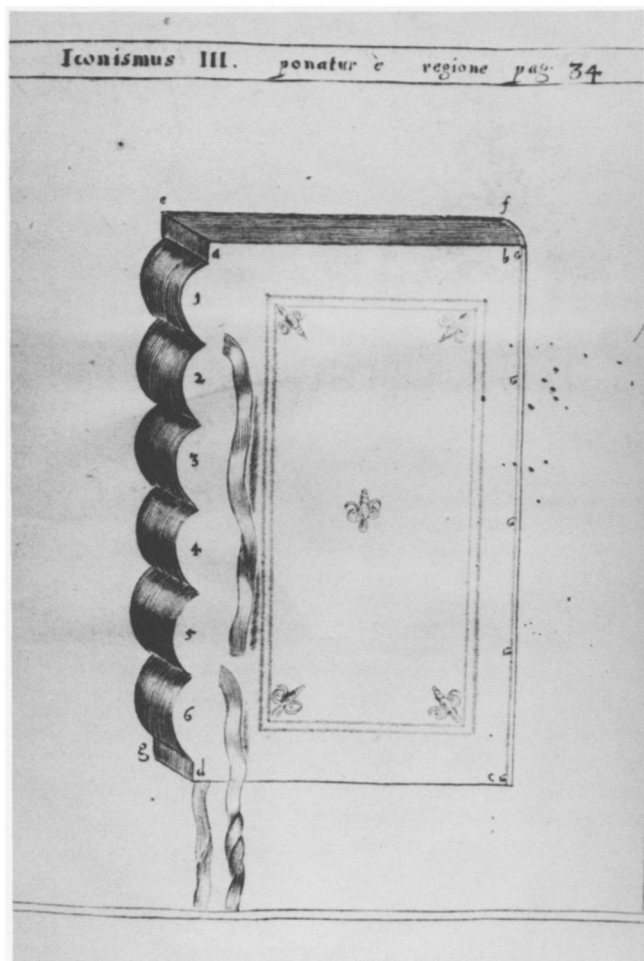


Figure 10. Book from which pages issue forth all kinds of illustrations, from G. Schott, *Jocoseriorum naturae et artis* (1677).

*mathematicae*.<sup>20</sup> So, too, should Bonanni's complete works be consulted for mention of Kircherian objects embedded within, such as Michele Todino's *Verospi Organ* (figs. 11, 12) cited in *Gabinetto di Strumenti Armonici*.<sup>21</sup>

20. G. Schott, op. cit., 34, and D. Schwener, *Deliciae phisicomathematicae*, Nürnberg, W. M. Endter (1677–1692), 405. Among Kircher's secret manuscripts, Schott mentions having found a book containing all kinds of illustrations in relief that issue forth upon leafing through the pages. The book is part in writing, part blank with plates.

21. Kircher describes the organ in *Phonurgia nova* as composed of several instruments in one, the first being played directly by the musician, while the others, which must not touch the walls or each other, begin to sound by resonance after a certain interval. A variant of the same instrument is illustrated in Bonanni's *Gabinetto armonico*

The idea that the description of the Kircher collection cannot be contained in a single book or catalogue introduces a radically new element into the view of the scientific museum, both revealing its past inadequacies and greatly extending its range. The notion of the collection as mainly a catalogue-opus of a finite microcosm is replaced by the idea of the collection as activity first and foremost; that is, the unquenchable, incessant act of inquiry—that same inquiry that, if it cannot do without experiment, at a certain point in time can and will eschew the museum collection.

That collections were swelling in bulk to the point where keeping them together became extremely problematic had already been sensed by Johan Daniel Major (*supra*), among others. This was reiterated by Valentini in a most interesting digression on the principal encyclopedic museums of the sixteenth and seventeenth centuries at the beginning of his *Historia Simplicium* (1716). There he stated his firm doubt, following Major, that everything produced by nature could be contained in a museum.<sup>22</sup>

Were we to read Kircher's opus in toto and follow its titles and divisions, we could momentarily convince ourselves that we are still dealing with an encyclopedic collection as defined by the canon. However, the primary components—those objects classified according to the three kingdoms of nature, the four elements, or the more general natural/artificial duality—have ceded their place to the physical manifestations that scientific inquiry has miraculously succeeded in capturing. These are light and shadow in all their emanations, the forces of magnetism, sound, and the life-forms of the aerial and subterranean worlds. Kircher describes the world by encoding it in a grand design of cause and effect, wherein the single artifact or specimen is left only an incidental slot. In doing this he reverses the traditional form of the encyclopedic museum catalogue, which proceeded from the single objects themselves to a more general description of the world.

This pattern can be detected, for example, in the way Kircher inserted the typical metallurgy sequence—the collection of rocks and minerals—in the second volume of *Mundus Subterraneus*. The frontispiece

*pieno di Instrumenti sonori indicati spiegati e di nuovo accresciuti*, in Roma, presso Giorgio Placho (1723), 80.

22. B. Valentini, *Historia simplicium reformatata sub musei museorum*, Francofurti ad Moenum, ex officina Zunneriana (1716), 1–3.

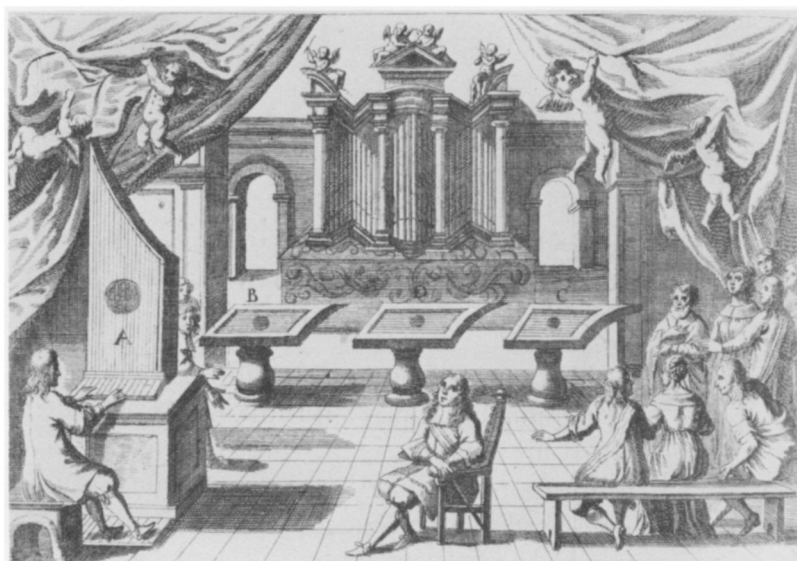


Figure 11. Michele Todino's "macchina organica." Harpsichords (B, C, O) automatically accompanied by resonance organ (A). From A. Kircher, *Phonurgia nova* (1673).



Figure 12. Michele Todino's "macchina organica" in Rome, from F. Bonanni, *Gabinetto armonico* (1723).

background displays the picture of a mine, as in Ulisse Aldrovandi's *Musaeum Metallicum*. The different sections portray the objects and specimens one expects to find in the encyclopedic collections: rocks fashioned by nature, in the image and likeness of man and with geometric motifs, a series of stones bearing the "naturally" embossed alphabet, eggs marked with the striking patterns of nature's artistry, and a knot of olive wood shaped in a female head closely resembling that found in Cospi's Bologna museum. Once that privileged bond between collection and catalogue so typical of the Renaissance was loosened, as in the case of Kircher, it became possible to branch out beyond one's immediate confines. Thus Kircher could even describe and cite objects that belonged to collections other than his.

This Kircherian exposition or exegesis was the precursor of Bernardo Valentini's extraordinary *Museum Museorum*.<sup>23</sup> This is at one and the same time an encyclopedic compendium of *naturalia* and *artificialia*, a catalogue of the author's collection and the first systematic treatment of the history of collecting, as evidenced by the bibliography of lost and extant collections. Valentini's opus is also important because it provides a glimpse forward into one of encyclopedic collecting's interpretive *topoi*, later to be taken up by Murray and Schlosser. This is the idea that the *Wunderkammern* are direct descendants of the treasury rooms of the medieval churches. Among those mentioned by Valentini is none other than St. Mark's in Venice.

Kircher's encyclopedic approach was to a great extent already present in the work of several others. Two of these men were outstanding in that their method of inquiry was aimed at practical knowledge through the manipulation of materials: Gerolamo Cardano, who was reputed to have his own collection, and Giovan Battista Della Porta, inveterate empiricist. As did Kircher, they both compiled veritable manuals on practical experiments. What links all three is the concept of wonder as natural magic, or the transformation of the elements and the unusual phenomena that result therefrom. I shall not dwell here on the experiments common to Cardano, Della Porta, and Kircher, which indeed were many. The striking fact that needs to be understood is that both Cardano and

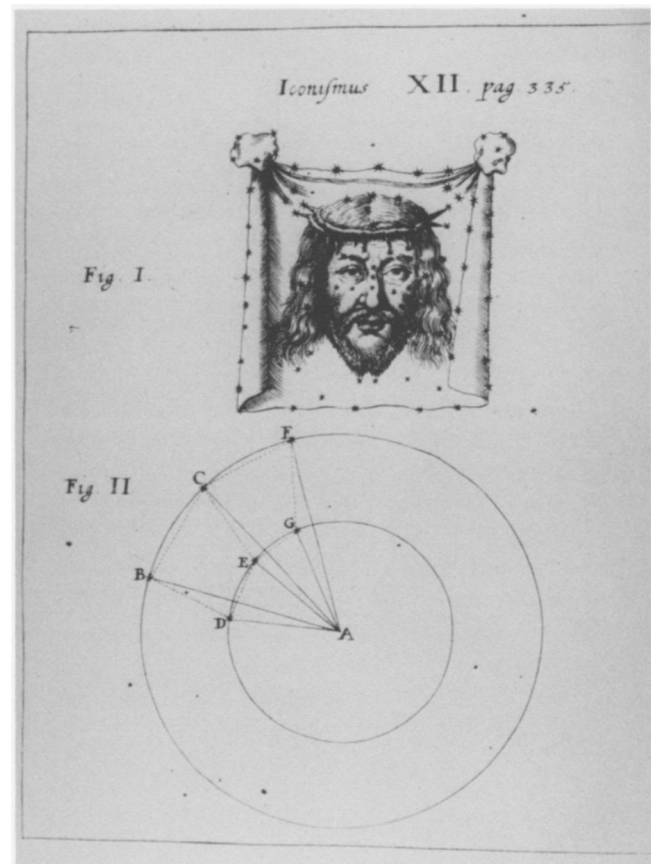


Figure 13. The constellation Veronica, from A. Kircher, *Iter extaticum coeleste* (1657).

Della Porta were brought before the Inquisition for carrying out analogous if not altogether identical experiments in natural magic. Yet Kircher, who appropriated these and even added new ones, was accepted without question.<sup>24</sup> Indeed, he became a leading protagonist in the Catholic Church's attempt to reconcile dogma and science, the general reform that sought to reestablish the Church's corpus of scientific learning and subject it to the aims of didacticism and propaganda. This became the famous "Propagatio Fidei per Scientias" under the aegis of which the Jesuits were to be dispatched to the Imperial Court of China, where their missionary zeal availed itself of the exhibition of

23. B. Valentini, *Museum museorum oder allgemeiner Kunst-und Naturalien Kammer*, Francofurti ad Moenum apud Erhen und Johan Adam Zungen (1704–1714).

24. Cardano's defense against the accusation of the practice of magic is in *Autobiografia*, a cura di P. Franchetti, Torino, Einaudi (1945), recently reprinted in *Autobiografie di filosofi: Cardano Bruno e Campanella*, a cura di L. Firpo, M. Masoero, G. Zaccaria, Torino (1982).



such prodigious wonders as mechanical clocks made in Europe.<sup>25</sup>

It is in this perspective that Kircher's desire to have every field of learning represented in his great Catholic encyclopedia is to be understood. His intention was to renew, starting from the year one, humanistic and scientific culture in which he the Jesuit, like a new Adam in the Earthly Paradise, would reestablish the world, if only in a nominal sense, through *collection* and *description*. *La Nominatio*, for example, includes in *Iter Extaticum Coeleste* (1656) a grandiose plan designed to replace the names given by the ancients to the constellations. Thus, following in the footsteps of Julius Schiller, author of *Coelum Christianum*, Kircher changed Ursa Minor to the constellation of St. Michael, Coma Berenicens (Berenice's Hair) to the Flagellation of Christ, Aries to St. Peter, and Perseus becomes St. Paul; later he published under the name of Veronica's Veil (fig. 13) the discovery, in 1643, of a new constellation.

Della Porta, Cardano, and Kircher were not alone among men of science to look on wonder or marvel as upon one of the essential components in the study of

nature and in the unraveling of its secrets. The concept, to be sure, must be extended beyond the fine arts as well as beyond the chronological limits usually assigned to it. Wonder is a meta-historical category and extends up to the end of the eighteenth century. It is defined primarily in its didactic sense, as a form of learning—an intermediate, highly particular state akin to a sort of suspension of the mind between ignorance and enlightenment that marks the end of unknowing and the beginning of knowing. It was, too, in this period, the result of a mingling of aesthetic categories with different fields of study that thereafter became the exclusive preserve of science.

When seen from this vantage point, most of Kircher's experiments primarily exemplify the use of technology as embellishment—optical chambers projecting images on walls or vaults instead of ceiling frescoes, automata in gardens, talking statues, and sound and echo rooms—sort of “applied marvels.” Indeed, such curiosities could be compared to other applied marvels that had preceded them; for instance, the specimens from nature used in decorating sixteenth-century gardens as with grottoes internally lined with seashells. There are, too, the patrons, those who commission these *loisirs*, these machines that awe the visitor with sounds, lights, and

25. Cf. *The Clockwork Universe, German Clocks and Automata 1550–1650*, ed. by K. Maurice and O. Mayr, Smithsonian Institution, Washington, D.C. (1980).

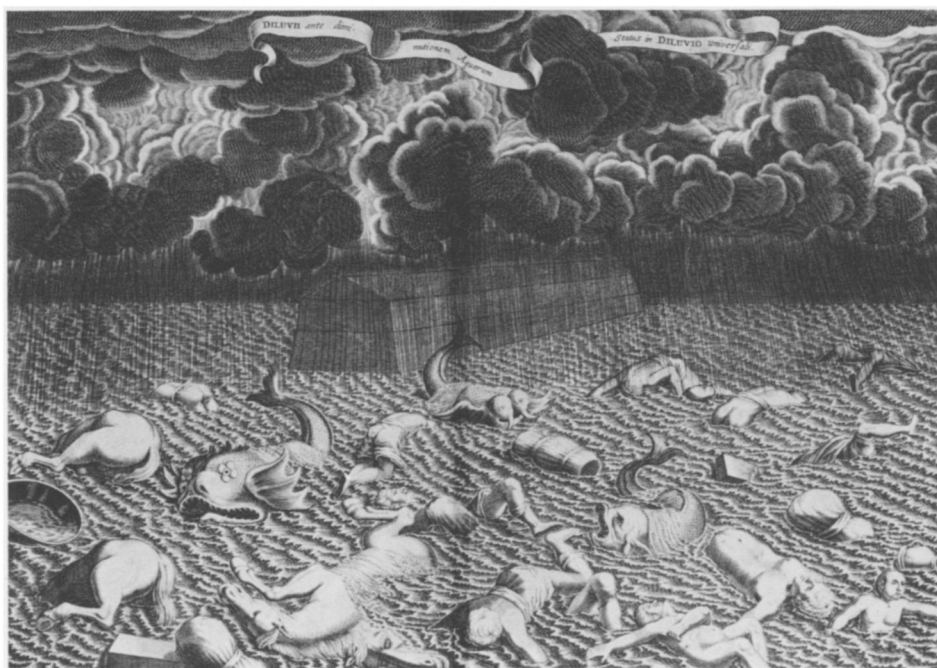


Figure 14. The deluge, from A. Kircher, *Arca Noë* (1675).

images, a presence evoked in the religious emblems of the seventeenth century with their moralizing overtones.

Most of Kircher's followers and imitators have seized, to be sure, on this more facile and spectacular aspect of his museum. And, although the collection's objects, destined to the same fate as all collections of art and marvels, were scattered at the end of the nineteenth century, a different sort of wandering lay in wait for Kircher's multivolume works with their thesaurus of illustrations; they came to the attention of the twentieth century's avant-garde art movements.

Kircher was in all likelihood part of Marcel Duchamp's readings when he was librarian at the Bibliothèque Sainte-Geneviève in Paris<sup>26</sup> and De Chirico, whose ten lithographs illustrate Jean Cocteau's *Mythologie* (Paris, 1934), most certainly glanced at the *Arca Noë* engravings with their striking figures wriggling amid scroll-like, razor-sharp waves (figs. 14, 15, 16).

26. J. Clair, *L'oeuvre de Marcel Duchamp*, exhib. cat. Musée National d'Art Moderne, Centre Pompidou, Paris (1977), 174–176.

(Translation by David J. Verzoni, Jr.)



Figure 15. G. De Chirico, "Sotto la cabina misteriosa," lithograph for J. Cocteau's *Mythologie* (1934).

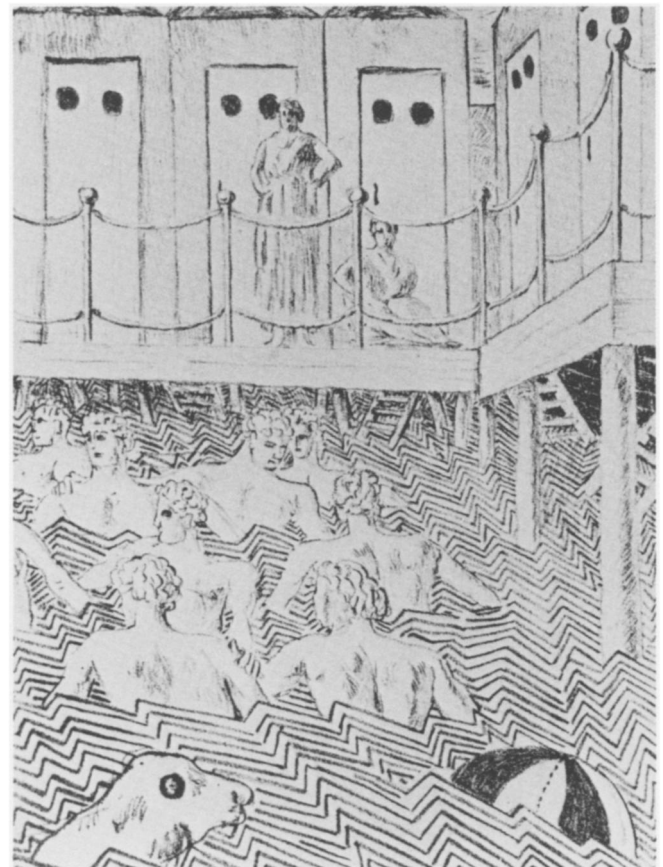


Figure 16. G. De Chirico, "Raduno inspiegabile," lithograph for J. Cocteau's *Mythologie* (1934).